

Wolff Law Offices, PLLC
Response and Amendment

Patent Application
Attorney Docket No.: STJ-PAUS0001

In The Claims:

Please cancel claims 15-17 without prejudice or disclaimer.

Please amend claims 1-3, 6, 7, 12, 14, 18, 25, 29, 30, 31, 38, 42 and 43 as follows:

1. (Currently Amended) A wireless communication system comprising:
a receiver front end having a first set of components including a housing
and configured so that the receiver front end may be upgraded to a second set of
components also including the housing, the second set of components being configured
to operate according to predetermined receiver front end characteristics.
2. (Currently Amended) The wireless communication system of claim 1,
wherein the second set of components are mounted to the housing and includes at least
one other component of the first set of components is configured to provide greater
received signal sensitivity than the first set of components.
3. (Currently Amended) The wireless communication system of claim 2 1,
wherein the second set of components includes one or more cryogenically cooled
components that are cooled to a temperature equal to or below the maximum upper limit
for high temperature superconductors.
4. (Original) The wireless communication system of claim 3, wherein the
one or more cryogenically cooled components includes at least one cryogenically cooled
amplifier.
5. (Original) The wireless communication system of claim 4, wherein the
cryogenically cooled amplifier is a low noise amplifier.

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6. (Currently Amended) The wireless communication system of claim 1, wherein the second set of components ~~provides greater channel selectivity than the first set of components~~ includes a cryogenic cooler, a heat sink, and a control board.
7. (Currently Amended) The wireless communication system of claim ~~6~~ 1, wherein the second set of components includes one or more high temperature superconductor (HTS) components.
8. (Original) The wireless communication system of claim 7, wherein the one or more high temperature superconductor components includes at least one high temperature superconductor filter.
9. (Original) The wireless communication system of claim 1, wherein the second set of components includes at least one cryogenically cooled amplifier and at least one high temperature superconductor filter.
10. (Original) The wireless communication system of claim 1, wherein the second set of components includes a subset of the first set of components.
11. (Original) The wireless communication system of claim 10, in which the first set of components and the second set of components include a dual duplexer configured to provide one or more duplexed channels.
12. (Currently Amended) The wireless communication system of claim 11, in which the number of duplexed channels is six and the second set of components includes a high temperature superconductor cooled to a temperature equal to or below the maximum upper limit necessary for high temperature superconductors to properly operate.

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13. (Original) The wireless communication system of claim 1, further comprising a base station wherein the receiver front end is a component coupled to the base station.
14. (Currently Amended) The wireless communication system of claim 1, ~~further comprising a wherein the housing is a single enclosure for housing the receiver front end components, the housing having three dimensions of sufficient size to accommodate at least a portion of the first set of components and all of the additional components added that make up the second set of components.~~
15. (Cancelled) ~~A receiver or transceiver front end, comprising a plurality of functional modules, wherein said plurality of modules includes at least one of a high temperature superconductor component and one of a cryogenically cooled component.~~
16. (Cancelled) ~~The method front end of claim 15, wherein the high temperature superconductor component is a high temperature superconductor filter.~~
17. (Cancelled) ~~The front end of claim 15, wherein the cryogenically cooled component is a cryogenically cooled amplifier.~~
18. (Currently Amended) A base station system, comprising:
a receiver having a an upgradeable front end including a housing, the front end including a first component that operates at a first predetermined characteristic and configured so that the front end may be upgraded to further include one or more second components housed by the same housing used for the first component, the second component(s) operating at a second predetermined characteristic.
19. (Original) The base station system of claim 18, wherein the first component is a low noise amplifier.

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20. (Currently Amended) The base station system of claim 18, wherein the ~~second component is one or more second components~~ includes a plurality of components mounted to the housing configured to provide greater received signal sensitivity than the first component.
21. (Original) The base station system of claim 20, wherein the second component includes one or more cryogenically cooled components.
22. (Original) The base station system of claim 21, wherein the one or more cryogenically cooled components includes at least one cryogenically cooled amplifier.
23. (Original) The base station system of claim 22, wherein the cryogenically cooled amplifier is a low noise amplifier.
24. (Original) The base station system of claim 18, wherein the second component is further configured to provide greater channel selectivity than the first component.
25. (Currently Amended) The base station system of claim 24, wherein the second component includes one or more high temperature superconductor components that is cooled to a temperature equal to or below the maximum upper limit for high temperature superconductors.
26. (Original) The base station system of claim 25, wherein the one or more high temperature superconductor components includes at least one high temperature superconductor filter.
27. (Original) The base station system of claim 18, wherein the second component includes a subset of the first component.

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28. (Original) The base station system of claim 27, in which the first component and the second component includes a dual duplexer configured to provide one or more duplexed channels.
29. (Currently Amended) The base station system of claim 28, in which the number of duplexed channels is six and wherein the second component is cooled to a temperature equal to or below the maximum upper limit for high temperature superconductors.
30. (Currently Amended) The base station system of claim 18, ~~further comprising a~~ wherein the housing for the receiver front end is a single housing having at least three dimensions of sufficient size so as to contain at least a portion of the first component and one or more of the second component, wherein the base station is a component of a wireless communication system.
31. (Currently Amended) A receiver or transceiver front end, comprising:
a single housing configured to accommodate a first complete set of front end signal components that require a first volume of the housing, the housing ~~further including oversized relative to the area needed to accommodate the first complete set of front end signal components so as to provide~~ an additional volume for allowing the receiver front end to be upgraded to have a second complete set of receiver front end signal components.
32. (Original) The front end of claim 31, wherein the second set of components is configured to provide greater received signal sensitivity than the first set of components.
33. (Original) The front end of claim 32, wherein the second set of components includes one or more cryogenically cooled components.

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34. (Original) The front end of claim 33, wherein the one or more cryogenically cooled components includes at least one cryogenically cooled amplifier.
35. (Original) The front end of claim 34, wherein the cryogenically cooled amplifier is a low noise amplifier.
36. (Original) The front end of claim 35, wherein the second set of components is configured to provide greater channel selectivity than the first set of components.
37. (Original) The front end of claim 36, wherein the second set of components includes one or more high temperature superconductor components.
38. (Currently Amended) The front end of claim 37, wherein the one or more high temperature superconductor components includes at least one high temperature superconductor filter cooled to a temperature equal to or below the maximum upper limit for high temperature superconductors.
39. (Original) The front end of claim 31, wherein the second set of components includes a subset of the first set of components.
40. (Original) The front end of claim 31, wherein a total volume of the housing is approximately equal to or greater than 8064 cubic inches.
41. (Original) The front end of claim 31, wherein the housing is three dimensional and at least two of three dimensions of the housing is approximately equal to or greater than 24 inches.
42. (Currently Amended) A method for upgrading a receiver or transceiver front end, comprising the step of:

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providing a modular design so that one or more parts of a first complete receiver front end system may be used as parts of a second complete receiver front end system within the same housing.

43. (Currently Amended) The method for upgrading a receiver or transceiver front end of claim 42, further comprising the steps of:

removing one or more parts of the first complete receiver front end system from the housing; and

installing one or more different parts to the housing so as to create the second complete receiver front end system.

Please add the following new claims 44-46:

44. (New) A method of upgrading a receiver or transceiver front end, comprising the step of:

providing a pre-upgraded front end including a plurality of functional modules, wherein said plurality of modules includes an enlarged housing for housing all of the other modules and having an excess area of sufficient size to house all upgrade components, a duplexer module, an amplifier module including a non-cryocooled low noise amplifier, and a power supply module.

45. (New) The method of claim 44, further comprising the steps of:

removing the power supply module;

removing the amplifier module;

adding a cryo-cooled system module, wherein at least a portion of the cryo-cooled module is housed within the enlarged housing.

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46. (New) The method of claim 45, wherein the cryo-cooled system module includes a cryogenically cooled high temperature superconductor filter, a cryogenically cooled amplifier, a cooler unit, a heat sink, and a control board.

47. (New) The system of claim 18, wherein the housing includes two or more other housings integrated into a single housing enclosure that houses all components.